

ODP-0-6502
May 16, 1980

MEMORANDUM FOR: Administrative Officer/DCI

VIA: Deputy Director for Applications
Office of Data Processing

STATINTL FROM:
Chief, D Division, Applications
Office of Data Processing

SUBJECT: DCI/Presidential Briefing Staff
Word Processing Study

1. Attached is ODP's word processing study conducted for the DCI/Presidential Briefing Staff (PBS). Based on information provided by PBS, the study indicates that one (1) single station NBI System 3000 unit is justified. The estimated annual savings are \$3,829.

2. In order to proceed with the above recommendation, please return a completed procurement action form along with this study. Plans should also be made for the release of PBS' Mag Card A typewriter when the new equipment is installed and becomes operational.

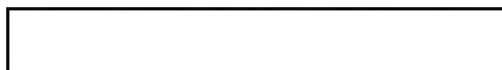
3. If you have any questions regarding the study or the data which justified the recommendation, please contact either myself or on

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Attachment: a/s

Word Processing Study
for
DCI/Presidential Briefing Staff
6 May 1980
by



D Division/Applications
Office of Data Processing

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1.0 Introduction

1.1 Background

1.1.1 Description of Request

This study has been prepared in response to a request from the DCI/Presidential Briefing Staff for a Vydec word processor to replace their current mag card word processing equipment. The initial request, dated 11 March 1980, was received by Applications Division/ODP on 17 March 1980 along with a form 2420 requesting the acquisition of a Vydec word processor.

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The following details the findings of the Presidential Briefing Staff's word processing survey conducted by [REDACTED] of ODP/A/DD. Alternative solutions have been explored with a recommendation for an NBI 3000 word processor solution.

1.1.2 Mission and Objectives

The DCI/Presidential Briefing Staff's missions and functions, as related to word processing, center on the production of briefings and outlines for the DCI and DDCI. These briefings and outlines may contain charts, tables, and graphics and often must be produced within a very short time frame. Additionally, other categories of documents produced include normal office correspondence, notes, file I.D. sheets, and other component's papers.

1.1.3 Current System

1.1.3.1 Scope

The Presidential Briefing Staff's typing activities fall into the following three (3) categories and are supported by one GS-9 secretary who expends approximately sixty-five (65) regular and twenty-one (21) overtime hours per two week period on typing activities. This typing is currently performed on IBM Mag Card A equipment. Additionally, the current typing workload occasionally requires the office to recruit personnel from a nearby office in order to meet a critical deadline. This typing is performed on a Vydec word processor.

Cutlines/Briefings - This type of document is prepared for the DCI and the DDCI for Presidential Briefings, Congressional Briefings, Cabinet meetings, and other official high-level meetings. These documents comprise the bulk of the Presidential Briefing Staff's workload and may include charts and graphics. These documents range from one (1) to thirty (30) pages in length and require from one (1) to twelve (12) retypes. The average document is twelve (12) pages long requiring five (5) retypes.

Correspondence - Approximately three (3) documents of this type averaging one (1) page are prepared per day by the Presidential Briefing Staff. These documents are normally retyped two (2) times.

Papers - This category of typing includes File ID sheets, notes, and other component's papers. These documents average four (4) per day with two (2) retypes.

Presidential Briefing Staff's yearly typing profile of the previously mentioned typing categories is presented in Table 1. In this table, "Original Lines" represents the initial process of entering a document into the system. "Pct. Rev" refers to the percentage of lines that have been revised, and "Pct. Rep" is the percentage of lines in the document that remain unchanged from the original input and are "played out" (Repetitive Typing).

ANNUAL TYPING PROFILE
FOR
DCI/PRESIDENTIAL BRIEFING STAFF

| TYPE DOCUMENT | NUM DOC | PAGES DOC | ORIG. PAGES | ORIG. LINES | TIMES TYPED | TOTAL PAGES | TOTAL LINES | PCT REV | PCT REP |
|------------------|------------|--------------|----------------|----------------|----------------|----------------|----------------|------------|------------|
| ----- | --- | ---- | ----- | ----- | ----- | ----- | ----- | --- | --- |
| OUTLINES | 260 | 12 | 3,120 | 109,200 | 5 | 15,600 | 546,000 | 50% | 50% |
| CORRESP. | 780 | 1 | 780 | 27,300 | 2 | 1,560 | 54,600 | 65% | 35% |
| PAPERS | | | | | | | | | |
| FILE ID (1) | 260 | 1 | 260 | 2,600 | 1 | 260 | 2,600 | 0% | 0% |
| NOTES (2) | 520 | 1 | 520 | 2,600 | 1 | 260 | 2,600 | 0% | 0% |
| OTHER COMP. | 260 | 1 | 260 | 9,100 | 2 | 520 | 18,200 | 10% | 90% |
| ----- | ---- | ---- | ----- | ----- | ----- | ----- | ----- | --- | --- |
| TOTAL | 2080 | | 4,940 | 150,800 | | 18,200 | 624,000 | | |

The average number of lines per page has been estimated at 35 except as noted below:

- (1) - an average of 10 lines per page is used,
- (2) - an average of 5 lines per page is used.

TABLE 1

1.1.3.2 Problems

Problems encountered with the present system stem from extensive revisions to documents as required by the DCI. These revisions include wholesale changes of paragraphs, reordering of paragraphs, and extensive addition and/or deletion of phrases, sentences, and entire paragraphs. These revisions often must be accomplished in a matter of a few minutes. Since the current mag card equipment is page oriented, the operator most often elects to retype the revised sections rather than attempt the laborious tasks associated with large scale revisions. Another problem associated with the current equipment is that it does not allow for the printing of one document while another one is being edited. This results in a loss of potentially productive time while the operator waits for the print operation to complete.

2.0 User Requirements

2.1 Functional Requirements

The minimum functional requirements necessary to support the Presidential Briefing Staff's word processing requirements are as follows:

2.1.1 Easy to Use - The system must be designed for use by a typist with a minimum number of keystrokes required to perform text editing operations.

2.1.2 Text Editing - The system must support the following text editing functions:

- The system must be document oriented
- Character insert/delete
- Word insert/delete
- Line insert/delete
- Block insert/delete
- Automatic centering
- Automatic formatting/re-formatting
- Automatic hyphenation
- Automatic word wraparound
- Automatic pagination/re-pagination
- Super and subscript capability
- Automatic widow/orphan control
- Horizontal scrolling for up to 150 characters
- Search to document page
- Search to text
- Automatic document indexing
- Print while editing capability
- Automatic outline capability
- Alternate character set for printing special characters which are not a part of the normal character set (, , , ,).

2.2 Interface Requirements

No interface requirements were noted.

2.3 Restrictions and Special Considerations

All equipment considered must be TEMPEST approved for proposed location.

3.0 Alternative Solutions

The following alternative solutions were examined to determine their compatibility with the Presidential Briefing Staff's word processing requirements.

3.1 Vydec 1400

The Vydec 1400 is not a document oriented system and therefore will not meet the minimum functional requirements stated above.

3.2 CPT 8000T

The CPT 8000T meets the majority of the requirements outlined above with the exception of the automatic outline feature. Although this system was not recommended on the basis of not meeting the functional requirements, the full page display was determined to be the most desirable of the word processing systems considered.

3.3 Lexitron VT1303

The Lexitron VT1303 meets the majority of the Presidential Briefing Staff's word processing requirements with the exception of the automatic outline feature. Therefore, we have not recommended this system on the basis of not meeting minimum functional requirements. It should also be noted that other offices within the DCI have experienced less than adequate support from Lexitron in repair and service of existing equipment.

3.4 NBI 3000

The NBI 3000 word processor meets all of the Presidential Briefing Staff's minimum functional requirements and is considered a complete solution to the Presidential Briefing Staff's typing problems.

4.0 Recommendation

We have reviewed the above systems and recommend the NBI 3000 word processor for use by the Presidential Briefing Staff since it is the only alternative discussed that meets all of the minimum functional requirements. It should also be noted that, with the exception of the Vydec 1400, the NBI 3000 is the least expensive word processor that was considered. We recommend the acquisition of this system in the single station, single disk configuration with the proportional printer. We also recommend the sheet feeder and equation mode options for this system.

Presented in Table 2 is the cost analysis of the NEI 3000 as compared to the current equipment. The guidelines for determining cost effective word processing resources requirements are outlined in the National Archives and Records Service (NARS) handbook. The productivity rates used in the calculations have been established by NARS for original typing; light, medium, and heavy revision typing; and repetitive typing (play out) based on the category of equipment. In preparing the cost analysis, the following formulas have been used:

- a. Annual Typing Hours
 - Original Typing Hours = Original Typing Lines / Productivity rate
 - Revision Typing Hours = Total Lines * Revision Percentage / Productivity Rate
 - Repetitive Typing Hours = Total Lines * Repetitive Percentage / Productivity Rate
- b. Personnel Required
Annual Typing Hours / 1540 (average productive hours per year)
- c. Personnel Salary
Annual GS Salary + 10% * Personnel required
- d. Machines Required
Annual Typing Hours / 2000 (average machine usage per year)
- e. Machine Costs
Machines Required (rounded) * amortized purchase price
- f. Personnel and Machine Costs
Personnel Costs + Machine Costs
- g. Estimated Savings
Current - Proposed Personnel and Machine Costs

| PRESIDENTIAL BRIEFING STAFF'S MANPOWER/MACHINE COSTS | | |
|--|-------------------------------------|--------------------------------|
| | CURRENT EQUIPMENT IBM MAG CARD A | PROPOSED EQUIPMENT NBI 3000 |
| 1. ANNUAL TYPING HOURS | | |
| A. OUTLINES/BRIEFS | | |
| - ORIGINAL TYPING | 109,200/153 = 714 | 109,200/166 = 658 |
| - REVISION TYPING | 273,000/352 = 776 | 273,000/412 = 663 |
| - REPETITIVE TYPING | 273,000/466 = 587 | 273,000/752 = 363 |
| | ----- | ----- |
| | 2077 | 1684 |
| B. CORRESPONDENCE | | |
| - ORIGINAL TYPING | 27,300/153 = 178 | 27,300/166 = 165 |
| - REVISION TYPING | 19,100/422 = 46 | 19,100/621 = 31 |
| - REPETITIVE TYPING | 35,490/466 = 76 | 35,490/752 = 47 |
| | ----- | ----- |
| | 300 | 243 |
| C. PAPERS | | |
| - ORIGINAL TYPING | 14,300/153 = 94 | 14,300/166 = 86 |
| - REVISION TYPING | 1,820/422 = 46 | 1,820/621 = 3 |
| - REPETITIVE TYPING | 16,380/466 = 35 | 16,380/752 = 22 |
| | --- | --- |
| | 134 | 111 |
| TOTAL TYPING HOURS | 2,511 | 2,038 |
| 2. PERSONNEL REQUIRED | | |
| A. OUTLINES/BRIEFINGS | 2,077/1540 = 1.35 | 1,684/1540 = 1.10 |
| B. CORRESPONDENCE | 300/1540 = .20 | 243/1540 = .16 |
| C. PAPERS | 134/1540 = .09 | 111/1540 = .07 |
| | ----- | ----- |
| TOTAL PERSONNEL | 1.64 | 1.33 |
| 3. PERSONNEL SALARY | | |
| GS-9 + 10% | \$18,739 x 1.64 = | \$18,739 x 1.33 = |
| | \$30,732 | \$24,923 |
| 4. MACHINES REQUIRED | 2511/2000 = 1.25 | 2038/2000 = 1.02 |
| 5. MACHINE COSTS | 1 x \$800 = \$800 | 1 x \$2780 = \$2,780 |
| 6. PERSONNEL + MACHINE COSTS | \$30,732 + \$800 = | \$24,923 + \$2,780 = |
| | \$31,532 | \$27,703 |
| 7. ESTIMATED SAVINGS | | \$ 3,829 |

TABLE 2

As can be seen in the above table, the NBI 3000 word processor will result in a savings of \$3,829 per year over the existing equipment. In addition to the savings, the recommended equipment will enable the Presidential Briefing Staff to perform their typing in a more timely manner and improve office efficiency.